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Alder and Hancock's British Tunicata.¹—At last, thirty-eight years after the death of one of the authors (Alder), and thirty-two years after the death of the other, this work on British Ascidiæ, long known by students of the group to be hidden away somewhere in manuscript, has emerged to the light of day in a well printed volume of 146 pages and 20 plates, dressed in the familiar costume of the Ray Society's publications.

The historical statement by Canon Norman, a personal friend, if I mistake not, of both authors, gives briefly the vicissitudes through which the work has passed both before and since the authors laid it aside for the last time. There is something rather melancholy in a story like this. Pity it is, first having regard for these worthy naturalists themselves, that the fruits of their labors might not have long ago reached the hands of other students of these animals. Thus would a field of knowledge have been enriched, and deserving men could have received the recompense of acknowledgment richly their due, which by this delay has been largely denied them. And the somberness of the picture will be increased a little for many naturalists by the query, with some undoubtedly made more real by personal experiences, as to how far works of their own hands may have a similar fate in store for them.

One of the serious difficulties that has always been encountered by proposals to publish this monograph, Mr. Norman tells, has been the illustrations. A great number of these was left particularly by Mr. Hancock. Of these many were in various stages of elaboration, so that the two-fold problem of what to do with unfinished drawings, and of providing funds for reproducing the large number that was finished had to be met. But little use has been made, we are given to understand, of the unfinished figures. Even so, about 140 are published in the plates, 75 of which are colored; and there are 23 text figures. There can be little doubt that the illustrations will constitute one of the chief values of the work. Most of them are admirably drawn, and the reproduction is in the main good. The habitus figures should be specially useful as a seaside aid to identifying the species.

A historical sketch of the knowledge of the group introduces the work proper. This would have been of high value had it been published long ago; but with the recent extensive studies on the literature by Herdman and Seeleger, this portion of the monograph is made to a considerable extent antiquated.

¹ Alder, J., and Hancock, A. *The British Tunicates*. Vol. I. London, published by the Ray Society, 1905. 8vo, 146 pp., 20 pls.

Hancock's well known paper "On the Anatomy and Physiology of the Tunicata," originally published in the *Journal of the Linnean Society*, 1867, is appropriately reprinted here.

Naturally and very wisely, Mr. Hopkinson has refrained from any revisions of the text beyond what was absolutely necessary to rectify obvious typographic errors. It results from this that in several particulars both as to interpretation of structure, and classification, there is want of conformity to views now held. The most striking thing in this regard is the contention for the molluscan affinities of the tunicates. (The only discussion, however, of this question is that contained in Mr. Hancock's memoir above referred to.) The arguments put forward in support of this view are decidedly interesting reading from a historical point of view, and from the standpoint of now approved criteria of homology. It is surprising that Hancock should have failed even so much as to mention the theory of the vertebrate relationships of the group. One must suppose that at the time of writing this memoir the author had not yet become acquainted with Kowalevsky's important paper on embryology, published the year before. The only clue given us as to what either author's later views were on this fundamental matter, is found in the reference to a paper by Hancock, published in 1870, "On the Larval State of Molgula" etc. Here the author concluded that since there are two distinct modes of development in closely allied genera of the Tunicata, the tadpole condition is non-essential; and he expressed the belief that this fact would influence the theory of the vertebrate relationship of the group.

This volume treats only of the genus *Ascidia*, in the systematic part, as the genus was then understood. Thirty species are regarded as "good," and five varieties are recognized.

Although the volume is numbered *one*, I see no indication that another is to follow.

It is certainly well that this work is now published, but as certainly it would have been much better could it have been done long years ago.

W. E. R.

Schillings's With Flash-light and Rifle.¹—The rapidity with which the larger mammals of Africa are becoming exterminated makes it

¹Schillings, C. G. *With Flash-light and Rifle. Photographing by Flash-light at Night the Wild Animal World of Equatorial Africa*. Translated and abridged by Henry Zick, Ph.D. New York, Harper Brothers, 1905. 8vo, xiii + 421 pp., illus.